

Research Article

Exploring Birżebbuġa through Soundscapes

Daniel Gafa`

Correspondence: daniel.gafa.19@um.edu.mt

Abstract

This research investigates the residents' perceptions of soundscapes in Birżebbuġa, a Maltese town marked by diverse acoustic environments. Noise pollution, particularly from the Malta Freeport terminals, is a frequent concern among locals. Using Robert Murray Schafer's concept of soundscapes, this study aims to explore how these soundscapes influence the residents' sense of place.

Sounds were recorded in 12 distinct areas of Birżebbuġa, followed by a focus group discussion with eight residents to capture their reactions. The audio elicitation method revealed various emotional responses including nostalgia, frustration, and serenity. Key findings indicate that residential soundscapes, such as church bells (a soundmark), foster a sense of community and belonging. Natural soundscapes like those of Tal-Mara Cliffs (a keynote sound) evoke tranquillity, despite concerns over environmental degradation. In contrast, industrial sounds from the Freeport (a signal sound) and overpassing aeroplanes are sources of annoyance, disrupting daily activities.

The study highlights that while the soundscapes of the locality centre evoke positive emotions and nostalgia, natural soundscapes strengthen residents' connection to their locality. Industrial soundscapes, however, predominantly cause irritation. Despite these issues, residents express a strong sense of place and reluctance to move away, often citing their bond with the sea and community. Future research could explore the evolution of these soundscapes over time and compare Birżebbuġa's acoustic environment with other Maltese localities to better understand regional variations and resident perceptions.

Keywords: audio-elicitation; Birżebbuġa; soundscapes; sense of place

© 2025: SociologyMT, Department of Sociology, University of Malta.

Introduction

Soundscapes are captivating because they enable individuals to engage with sounds and use those sounds as a medium for interacting with others, enriching conversations, and shared experiences within various contexts. The term 'soundscapes' refers to the sound or combination of many that form or emerge from the absorption of a real or an artificial environment (Schafer, 1994). The International Standardisation Organisation (ISO) defined the term 'soundscape' as the "acoustic environment as perceived or experienced and understood by a person or people in context" (ISO, 2014). The notion of soundscapes can allow research a more sociological

perspective on sounds and noise. Also, they can explore the whole picture rather than only focusing on the negative aspects which are usually noises.

The current analysis on soundscapes is very scarce, especially locally. Research on sound is often limited to quantitative measurement in terms of decibels, mostly at policy level, ignoring qualitative research. This paper sets out to research sound, its meanings, and attachments rather than its frequent reduction to noise and negative connotations. The main aim is to measure the residents' sense of place by eliciting how they relate to the different soundscapes of Birżebbuġa, from natural to industrial soundscapes. When sense of place is discussed, it refers to the emotional connections that people develop and encounter in particular locations and environments. It is also used to describe the uniqueness and distinctiveness of a particular locality (Foote & Azaryahu, 2009).

Birżebbuġa was chosen for this study as it is the researcher's lifelong home, where he received his primary education and was involved with local organisations. With all his family from Birżebbuġa, the town holds deep emotional significance for him, filled with memories of experiences and people. While he knows the locality well, he acknowledges there is still more to discover. Despite its motto, "*Paċi u saħħa lil kulhadd*" (Peace and good health to everyone), the town's reputation is challenged by residents' frequent complaints about noise pollution, raising questions about the remaining peace in Birżebbuġa.

Birżebbuġa is a port, a seaside resort and a locale. The Malta Freeport made this locality a hub of international trade. As a locality it also has proximity to a major industrial estate and the airport, hence being directly en route of planes descending to or taking off from the airport. Nevertheless, Birżebbuġa is still characterised by natural spaces. All these will invite a very particular set of soundscapes.

Soundscapes

Sounds take longer than visuals to be processed in our brains and for us to react to them, but they have a major part in forming our affinity with space, place, or circumstance (Lawson, 2001, p. 61). The term 'soundscape' was first coined by Michael Southworth (1969) and then popularised by Robert Murray Schafer in the World Soundscape Project in 1971 and his subsequent work '*The soundscape: Our sonic environment and the tuning of the world*' (Schafer, 1971; Wissmann & Zimmermann, 2010, p. 374). Southworth (1969) identified soundscapes as important elements of the urban landscape and referred to the sound that grabs our attention as a "sonic sign", which creates a visual image in the viewer's mind. Schafer imagined the world as a musical composition, with its flaws needing to be mended by acoustic designers by "improving the orchestration of the world" (Traux, 2021). 'Soundscapes' is a very broad multi-disciplinary term, and it refers to everything that has to do with musical or field recordings to descriptions of auditory environments (Cerwen, 2016).

Soundscapes are shaped by subjective perceptions of the acoustic aspects of urban and rural areas, varying based on how individuals interpret different sounds (Davies et al., 2013, p. 224). The acoustic environment plays a crucial role in influencing the physical world and is relevant to social sciences due to its impact on quality of life (Chuengsatiansup, 1999; Liu et al., 2013; Ohrstrom et al., 2006; Skanberg & Ohrstrom, 2002). Today, the world is

overwhelmed with sound and only a small portion can be clearly perceived (Schafer, 1994, p. 71). However, soundscapes offer valuable practical and methodological insights for research, as seen in various urban and rural studies. For example, Di Loreto et al. (2022) found that people generally prefer natural over artificial sounds. Nevertheless, Southworth (1969) is credited with recognising soundscape as a key element of the urban environment, emphasising that its significance depends on the sound's content, context, and intensity.

Humans unconsciously classify their daily soundscapes in relation to their activities (Steele et al., 2015). Schafer's soundscape typology includes three key sonic abstractions: keynote sounds, signal sounds, and soundmarks (Schafer, 1994). Classifications through these abstractions may not be fixed but could also depend on how people interact differently with sounds. Keynote sounds are background sounds that do not require active listening as they become used to when heard on a daily basis. The hum of traffic or birds chirping are some examples (Schafer, 1994, p. 10). A signal sound is a sound which captures attention and stands out from the background sounds. The sound of a distinctive bird call not typical in Malta or the sound of an old car which emits a loud noise when passing by can be considered as signal sounds (Schafer, 1994, pp. 9-10). Soundmarks, akin to landmarks, are sounds which have the ability to identify a particular location and also when a sound has qualities whereby people of a community particularly notice it (Adams et al., 2006, p. 2392).

In Malta, academic literature on soundscapes is still in its infancy. An article by Micallef Filletti et al. (2023) investigated the marine soundscape around Malta and the importance of understanding underwater noise for ecosystem health, especially given the potential impacts on marine life. It suggests further research to monitor and mitigate human-induced underwater noise in Maltese waters. Peake (2008) examines the role of sensory experiences, such as culinary traditions and soundscapes, in creating an "authentic Gozo" for locals and tourists, enhancing both cultural identity and tourism appeal. The limited literature on Maltese soundscapes makes this study on Birżebbuġa a much-needed contribution to this field.

It is crucial to distinguish between noise and sound. Noise is an unwanted, unpleasant sound that disrupts sleep and tasks requiring focus (Moudon, 2009). To understand the harmfulness of noise, it is essential to consider its impact rather than its source (Kohut, 2015, p. 6). Notably, traffic noise emerges as the most significant contributor to noise pollution (Khan et al., 2018). Control over sound influences annoyance, as even a favourite song can irritate if excessively loud (Epstein & Bronzaft, 2020, p. 63). In this context, the concept of soundscape gained prominence among noise and health researchers in the 1990s, aligning with increased noise abatement efforts to protect citizens from harmful noise levels (Axelsson, 2020).

Soundscapes, as part of the local environment, influence social and ecological interactions, studied within environmental sociology. These soundscapes, encompassing biological, geological, and human-made sounds, affect animal behaviours and serve as indicators of environmental health and biodiversity in urban and natural areas (BioScience, 2023). An interdisciplinary approach, including environmental sociology, psychology, and urban planning, is vital to tackling urbanisation and noise pollution challenges (Aletta & Xiao, 2018). For instance, Birdlife protested a model airplane facility in Wied Żnuber, which could disrupt sensitive nesting birds like seagulls (Arena, 2022). Soundscapes also enrich maritime sociology

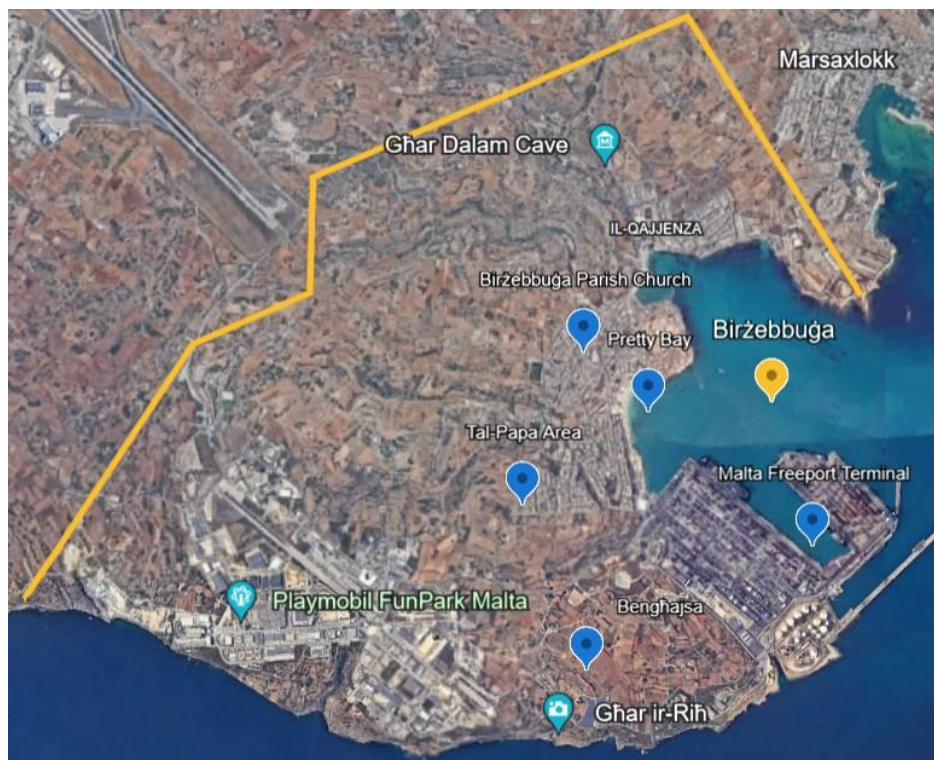
by examining the impact of natural and human-made coastal sounds on coastal communities of workers and residents, with theories like Actor-Network Theory framing oceans as "hybrid" spaces where nature and culture intersect (Kołodziej & Kołodziej-Durnaś, 2022; Kołodziej-Durnaś, 2014).

Birżebbuġa

The focus of this study, Birżebbuġa (see [Figure 1](#)), has had its own limited scholarship on noise effects, given the location of Malta Freeport, one of the largest container terminals in the Mediterranean. In a recent study, a staggering 98% of respondents said that noise is a problem in Birżebbuġa, especially during the night (between 0:00 am - 6:00 am), and more so during the summer months (Camilleri, 2021). Areas alongside ports have a great mixture of different activities in coexistence: this creates a complex blend of sounds and noise (Licitra et al., 2022, p.270). When measuring noise, Camilleri found aircraft noises, alarm noise from RTG cranes at the Freeport along with the banging of containers as the main sources of noise, with the Freeport emitting a sound of 58 dB A when the World Health Organization (WHO) stipulates a limit of 54 dB A (Camilleri, 2021).

About a century ago, Birżebbuġa was known for its tranquillity and natural beauty, attracting noble families to build summer residences there (D'Amato & Balzan, 2017, p. 88). During the summer, the town had a vibrant social and commercial life, especially near the sea, but it became quiet in winter (D'Amato & Balzan, 2017, p. 108). Today, however, the sonic environment is very different. In 2021, the Maltese Government proposed building an automobile racetrack within the limits of Hal Far, causing concern among residents who argue that Birżebbuġa cannot handle more noise sources (The Malta Independent, 2021). Over the years, the government has introduced measures like the double-glazed window scheme to mitigate noise issues and proposed projects to create new urban spaces. Additionally, the Malta Freeport has planned projects like the shore-to-ship initiative to reduce terminal noise (Vella 2023).

In more recent years, Pretty Bay and St. George's Bay were vibrant with activity and the sounds of people enjoying the crystal-clear waters during summer (D'Amato & Balzan, 2017, p. 108). However, the construction and operation of Malta Freeport has reduced Pretty Bay's appeal as a swimming spot, though it remains popular for beach sports and leisure after being replenished with sand. Today, Birżebbuġa comprises three main residential areas: the central part near the parish church and sea, Qajjenza, and Tal-Papa along with some residents in Bengħajsa. The locality also includes rural and industrial zones, creating a diverse mix of soundscapes that make Birżebbuġa a fascinating case study.

Figure 1: Aerial view of Birżebbuġa

Locality and sense of place

Locality refers to a specific area which is characterised by its physical boundaries and inhabited by a community of people. Massey (1994) notes that locality is shaped by the social interactions and networks that occur within a specific geographical area. A community is an interdependent human system structured by its internal conversations, with its history, buildings, and culture emerging from these interactions (Block, 2008, p. 30). The term "community" is a highly contested term, reflecting its fluidity (Blackshaw, 2010). Birżebbuġa now hosts 3,425 non-Maltese residents which amounts to almost a third of the locality's population of 11, 844 residents (NSO, 2021, p. 67). In Birżebbuġa, the term 'community' can refer to various groups such as the Catholic church community or the small fishing community. However, in this paper, it will be used to refer to those residing in Birżebbuġa with an affinity for the place.

Locality is closely linked to a sense of place and identity, where social and cultural aspects shape residents' lives. Tuan (1977) emphasises that the cultural traits of a locality are fundamental in shaping its distinct identity, as shared practices and values not only define the community but also distinguish it from others. Relph (1976) describes the attachment to a locality as a deep connection that contributes to one's identity and community sense. A sense of place is tied to the "devotion" people feel for these settings, reflecting a locality's uniqueness (Foote & Azaryahu, 2009; Lewicka, 2011). Easthope (2016) notes that the home holds significant social, psychological, and emotional meaning, reflecting residents' sense of belonging (p. 109). Relph (1976) adds that space should be understood through the experiences people create within it, which can be instinctive (p. 9).

Methodology

Soundscapes led the researcher to investigate the perceptions of people on different sounds. To investigate these sounds, they need to be recorded; hence a repository of sounds recorded in different spaces in Birżebbuġa was created. For this research, 12 sound recordings were recorded (see [Figure 2](#)). Most of them were recorded during a walk around Birżebbuġa on a February Saturday morning while others were recorded on other days in the same period. The sonic atmosphere of these spaces can be essential to Birżebbuġa's identity.

Figure 2: A map of the spaces where the sounds were recorded



Photo created by author with the help of Google Maps

Originally, this research was part of a Master of Arts dissertation so this particular period of the year was chosen so that the researcher would have enough time to carry out the research processes and analyse the findings. Given this decision and that soundscapes are temporal, some limitations can be noted. For example, in summer, spaces such as Wied Żembaq, the sound of Cicadas can be heard during the day and the sound of the 'werżieq' during the night. These sounds are non-existent during winter. The soundscape which comprises the beach activity of Pretty Bay in summer in contrast to the winter one is another example. Therefore, it is important to note that these are snapshots of particular days and times. These recordings were categorised into natural, industrial, and residential soundscapes. Each space has its particular sound(s), which are different from each other. The visual experiences of these spaces are also distinct from each other.

Areas studied

All photos in this article were taken by the author.

Sea sounds near Ferretti Battery, Qajjenza

A sound recording of the sea crashing against the rocks near the Ferretti Battery was taken.

Figure 3: *The Qajjenza shore*



Figure 4: *Ferretti Battery*



Borġ in-Nadur

Here one can hear dogs barking, the background noise of the Freeport, cars passing by, and the church bells. The high position of this hill can provide a great mix of sounds that are found in the area.

Figure 5: *The view from the hill at Borġ in-Nadur*



Wied Żembaq, Ta' Kaċċatura

The sounds that can be heard in this recording are those of birds and roosters.

Figure 6: Wied Żembaq



Birżebbuġa Church Square

The recording taken in this area captured the sound of church bells ringing.

Figure 7: Parish Church of St. Peter in Chains



Figure 8: Church square, 'pjazza'



Pretty Bay

The sound recording has managed to capture the sound of children shouting while playing with a ball, the sounds of the ball itself, some inaudible conversations, and the motion of the sea in the background.

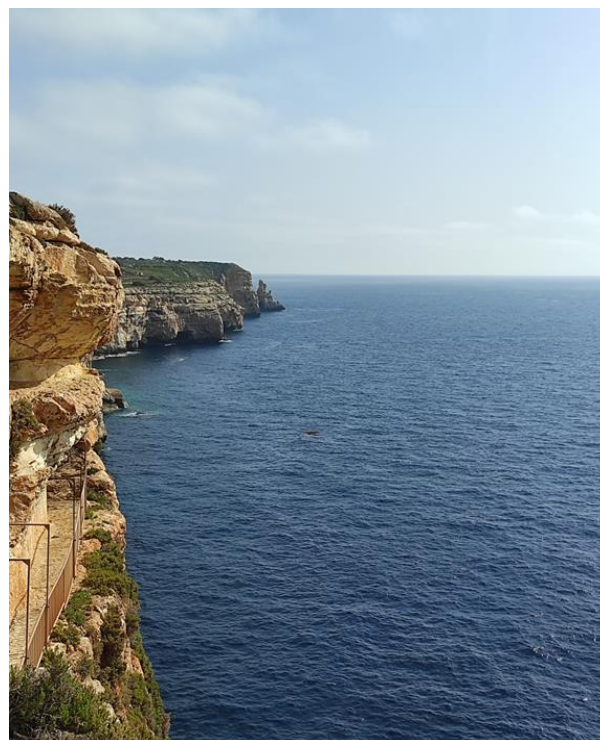
Figure 9: Pretty bay



Tal-Mara Cliffs, near Ghar Hasan

The recording that was taken here only captured the sound of a few birds chirping and the sound of the sea.

Figure 10: Tal-Mara Cliffs next to the blocked entry to Ghar Hasan



Immaculate Conception Chapel Square, Bengħajsa

Not many sounds can be heard here, only some birds chirping and also the sound of the Freeport in the background.

Figure 11: *Bengħajsa chapel square*



Birżebbuġa Open Market

The recording taken here while strolling through the open market has captured hawkers marketing their new offers in the traditional way that has been synonymous with these for many years: 'Look at the new offers that we have for you.' Although the open market and the shouting done by the hawkers are not unique to the Maltese islands, the way that the hawkers market their offers has become very synonymous with tradition.

Figure 12: *Il-Monti - Birżebbuġa open market*



Tal-Papa Area

The sound captured here is of an aeroplane getting ready for landing.

Figure 13: Tal-Papa area



Figure 14: Aeroplane over Tal-Papa area



Birżebbuġa Football Centre

In this recording, one can hear people talking, children shouting and parents instructing their children what to do while watching them play football.

Figure 15: The Birżebbuġa Football Facility

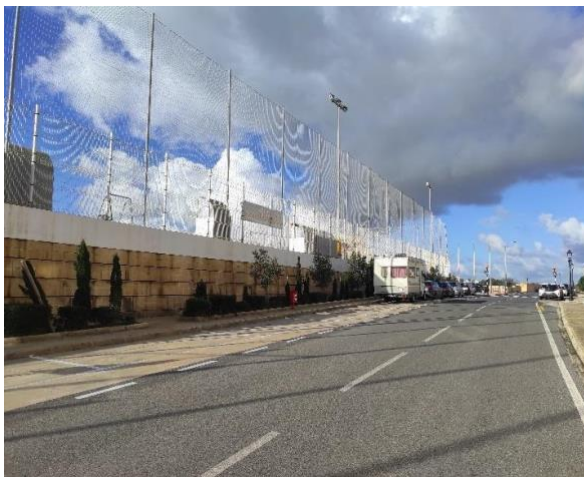


Figure 16: The Birżebbuġa Football Facility next to MUSEUM



Birżebbuġa Primary School

The recording captured children screaming and playing during break time.

Figure 17: *Birżebbuġa Primary School*



Seaside near the Malta Freeport

In addition to the constant noise from the Freeport, the recording captures the sound of a reversing container trailer, the sea, and a nearby ship worker's walkie-talkie.

Figure 18: *Malta Freeport Terminals*



Data collection

To hear and analyse the perceptions of different Birżebbuġa residents, a qualitative approach was administered, making a focus group the ideal method. It allows participants to build conversations and arguments, letting the moderator observe their interactions and explore group discussions, providing valuable data for understanding group processes (Barbour, 2007, pp. 31-32).

The focus group was held at the centrally located parish hall, convenient and familiar to all participants. The parish priest, Canon Anton Galea Scannura, provided the hall. The venue was ideal as it allowed for no interference of sound recordings. The exercise took place around a table where all participants could sit comfortably.

The sampling combined purposive and convenience methods. Purposive sampling targeted individuals who could best help in answering the research questions, aiming for diversity in age and duration of residence in Birżebbuġa (Bryman, 2012, p. 418). This was done by recruiting by means of a Google form shared on Facebook and a group 'Ngħaqqu Birżebbuġa'. While not all criteria were met, a diverse group was still achieved. Convenience sampling involved recruiting available individuals which was done by directly recruiting people or through gatekeepers. Eight participants from different backgrounds were recruited. This possibly encouraged more candid expression of views, which were contrasting at times. The discussion was lively, reducing the need for planned questions. The researcher primarily acted as a moderator facilitating interaction, occasionally introducing opinions to stimulate or redirect the conversation.

The primary ethical consideration was ensuring participant confidentiality through pseudonymisation to promote open discussion and prevent potential harassment (BSA, 2017, p. 5). The study presented minimal risk as no sensitive personal details were required. This was outlined in the information sheet given to participants. Ethical Clearance to carry out this study was given by the Faculty of Arts Research Ethics Committee (FREC) (Ref: ARTS-2023-00242).

Audio-elicitation

Elicitation is the act of bringing forward emotions, opinions, and facts. Social researchers use this method to evoke a discussion (Harris, 2015, p. 15). On photo elicitation, Bukowski and Buetow (2010) stated that they make the "invisible, visible" by inducing emotion, memories and perceptions that can give wonderful findings. The same can be said for audio elicitation, whereby the participants discuss and share the meaning and significance that a sound recording has to them. With this method, the information needed can be obtained from people's thoughts on the recordings played without asking many questions. For this research, the 12 sound recordings which were recorded, were played out during the focus group on a portable speaker. This gave the participants an opportunity to instantly react to these sounds and give their own thoughts. These sounds initiated some insightful discussions among these eight Birżebbuġa residents and there was an emotional engagement with sounds.

Sounds can be unspecified and generic which makes way for rich storytelling, but they can also be very specific which can lead to the identification of places (Harris, 2015, p. 16). Vokes

(2007) concluded that like photos, sounds also have a “hypnotic pull” because audio elicitation initiates sociality, discussions and debates (p. 409). Audio clips of various sounds can prompt people to recount memories especially if those sound recordings are familiar and are experienced during their daily lives. Audio elicitation acts as stimulus to start or continue a conversation among participants provoking a perception of a sensed memory (Harris, 2015). Sound has more potential to grab our attention, maybe because we cannot close our ears the way we close our eyes (Tuan, 1990, p. 8).

Data analysis

Grounded theory was used in focus group analysis to let theories emerge and evolve from data collection (Bryman, 2012, p. 387). Discussions on specific sounds revealed themes like temporality, environmental noise impact, and multisensory place attachment. Thematic analysis was also applied to identify and structure main themes, guiding the research (Clarke & Braun, 2017).

Results and Discussion

The participants were all given fictitious names as a means of data pseudonymisation. The first part of the focus group started by asking them to introduce themselves and say what does Birżebbuġa means to them. Most participants mentioned sound, perhaps because they knew about the research topic beforehand and were reminded of it during the researcher’s introduction. Here any sound mentioned by the participants was noise which is related to either the Freeport, aeroplanes, or others.

There were participants who referred to their rosier childhood and youth to describe what Birżebbuġa means to them and subsequently compared it to present day Birżebbuġa which was described as quite dull. There were participants who thought otherwise about present-day Birżebbuġa. For example, Olivia prefers Birżebbuġa to other localities because of the sea. Andrew also explained that Birżebbuġa is close to his heart: *‘I got used to the noises, not much to complain about... I love it [Birżebbuġa] and I cannot imagine myself living in another locality for sure’*. This comment was later criticised by Peter, the eldest participant, because according to him, getting used to something harmful is worrying for the future of the locality. Trigg (2012) argues that ‘place memory’ brings hidden environmental details to the forefront, while pushing past experiences into the background (p. 71). This concept is evident in participants’ comparisons of Birżebbuġa’s past and present, where changes are emphasised, and unchanged aspects are overlooked, fading into the background of memory.

When categorising different information, we discover commonalities, contrasts, and different patterns. The sound recordings taken were grouped into different types which were the natural, local centre and industrial soundscapes.

Sense of place in relation to the residential areas of Birżebbuġa

Proshansky (1978) introduced the theory of place identity, defining it as the aspects of self that shape an individual’s identity through both conscious and unconscious ideas of a specific setting (p. 155). Participants showed a strong emotional attachment to sounds associated with

the residential community, revealing place identities formed through deep individual and social experiences. They could vividly describe these experiences, with the sounds discussed in the following paragraphs being positively received. Comments like *'these sounds identify a Maltese locality'* and *'these make a locality vibrant'* highlight how these sounds help participants identify different parts of Birżebbuġa and foster their attachment to the area.

After listening to the sound recorded near the local primary school, Peter remarked: *'These bring back memories to me''*. Reacting to the loud screams of children, Jana said, *'We did worse, I think'*. Older participants recalled memories of a shop near the school known as *'tannonny'*. They also discussed the school bells, which rang until a few years ago but are now silent. Emma, who lives nearby, mentioned that she used to hear the bells clearly from her home.

The sounds from the local school were met with positive feedback, as they evoke fond memories and represent the lively aspect of local childhoods. These sounds symbolise continuity and hope, reflecting a thriving community. An empty school, by contrast, would signal decline, like deserted mountain villages in Europe. In the participants' views, the school sounds can be considered a soundmark as it is a sound which identifies a particular place where fond memories were done. However, for nearby residents, they might function as a keynote sound if they are accustomed to them, or a signal sound if they capture attention, highlighting the complexity of these abstractions.

The sounds from the Birżebbuġa Football Facility, though relatively new and not directly connected to the participants, are not considered part of the noisy soundscape. Some participants, despite criticising the strong lights, view the sounds as a positive symbol of a thriving community. Peter expressed a preference for hearing children and youth loudly engaging in activities that help them grow, rather than engaging in destructive acts, highlighting his concern for the community's youth. While some saw the football ground's sounds as a *'statement of a community'* others found them disruptive during MUSEUM meetings, showing differing perceptions of these sounds. These can be regarded as sound signals by those experiencing disruptions, and as a soundmark by those who specially regard it as important for the community.

Then there is the soundmark of the Birżebbuġa Parish Church bells which has the social significance of an active community as told by the participants. This sound can be easily identifiable as being recorded in Birżebbuġa. Someone even said that the sound of the church bells of the locality is better than other localities which shows a huge sense of positive emotional attachment to the sound. In Birżebbuġa, the bells were commissioned at one go in 1969 to ensure that the bells complement each other. The nostalgic sense of place which comprises a good level of reminiscing about a place at a particular period was brought out in the findings. Place attachments can extend over time, and this can be seen when a participant mentioned the fact that the sound of the church clock gives her a sense of belonging because it brings her nostalgia for when she was young and used to live near the Parish Church.

Andrew: I have no problems (with understanding the church bells), I understand everything, I would think *'Listen, there is a mass in fifteen minutes'*.

Peter: There is a reason for every chime.

Peter: Every Friday they ring....

Andrew: Every Thursday they ring the peal of the Eucharist.

Andrew: There is a purpose for everything, even for a couple of chimes.

Peter: If you understand the way they work, you will appreciate them more.

Andrew is very knowledgeable about the way church bells work and even goes up the bell tower to ring the bells himself. He has shown that he has developed a place identity with the bell tower in the way that he described his emotional attachment to the church bells. This also shows how such things form part of his personality. The findings, especially regarding the church bells, flea market, and hawkers, support Relph's (1976) view on identity. He suggests that when identity develops through meaningful engagement with people in a community, it endures as long as its symbols retain their significance.

The Flea market generates a lot of interesting sounds. *'I like them, they do not bother me'*, started off Jana before the participants delved into a conversation on the different sounds by different merchants that used to (and some still do) go around the locality. Some mentioned the recognisable sound of the gas vendor which varies from the sound of the bread seller and its cyclical aspect that people wait for on a daily. *'These are sounds of a Maltese village'*, one participant said. Peter noted: *'These types of sounds are now a thing of the past, those who used to shout could be associated with the product they used to sell'*.

One participant mentioned that one can do a little bit of negotiating in the market which cannot be done in a supermarket. Emma who lives close by where the flea market is organised expressed the joy that it gives her: *'Instead of hearing the noises coming out of cars, sometimes I hear a shout every now and then'*.

These sounds can be regarded as soundmarks in Schafer's terms because they can identify a Maltese village, as some participants said. They seem to give a sense of place to these participants because they make them feel at home. Calls of the vendors to promote their products is part of the identity of a Maltese village. Some still try to keep it alive with a loud recording and others use their own particular horn which usually may identify one van from another. These sounds seem to be well-liked among the participants.

The sound of aeroplanes is a distinctive feature in Tal-Papa area, evoking memories among participants about their experiences with this noise in Birżebbuġa. Andrew noted that he rarely notices the noise now, maybe because he has become so accustomed to it that he questions if any planes have passed overhead. He only becomes aware of it in quieter moments. Emma echoed this, saying she does not pay much attention to the aeroplane sounds. Participants mentioned that the noise can be disruptive, overpowering the sound of a TV or interrupting phone conversations, with others on the call often asking, *'What was that?'*. Schafer (1994) describes such overpowering sounds as "imperialistic" (p. 77). Despite being a significant noise source, some residents prefer it over constant vehicle noise. Research shows that aircraft noise is often perceived as more annoying than traffic noise, particularly by those living near airports (Baudin et al., 2021; Wothge et al., 2017).

Jacob: When I am in the company of someone who is not from Birżebbuġa, they tell me that they are too noisy, but I do not pay attention because I got used to the noises. I also remember having a meeting outside at the MUSEUM during the summer and it would stop until an aeroplane passed over because we could not hear anything.

For his part Peter stated that this type of recurring sound is there, but we do not listen to it with attention. He recounted how back then certain aeroplanes did much more noise pollution because they were louder, *'The RAF had aeroplanes with noises that can drive you crazy'*. In continuation, Jana said that years ago an aeroplane known as "ir-russu" (An Antonov cargo plane) used to set the whole place quaking.

The key takeaway from the discussions is that some residents have become accustomed to the sound, which, according to Schafer, functions as a keynote sound because it is typically ignored and remains in the background. However, it can also act as a signal sound, drawing the attention of non-residents even when they are on the other end of a phone call. The impact of the aeroplane noise is not confined to specific areas, as disruptions were reported across different parts of Birżebbuġa.

Sense of place in relation to the natural areas of Birżebbuġa

Some participants identified the sea and valleys as key sources of tranquillity, fostering a connection to Birżebbuġa. Schafer (1994) describes the sea as a fundamental natural element that is consistently present (pp. 15, 19). During the focus group, the sound of the sea was said to evoke calmness and a sense of belonging. One participant highlighted that experiencing the sea (its sights and sounds) offers a sense of belonging, more than just tranquillity. He noted: *'One needs to be there, watch, listen and appreciate, it gives me a sense of belonging rather than a sense of tranquillity'*. The recorded sound of a rough winter sea may evoke different feelings compared to the calm summer sea. Some participants even seek out similar sounds online for relaxation while working. The sea was viewed as part of the identity of Birżebbuġa, hence a significant "soundmark" that enhances the sense of place in Birżebbuġa, with participants expressing a preference for living in a seaside town.

The sound recordings that were taken in Borġ in-Nadur, Wied Żembaq and in the limits of Tal-Mara cliffs can all be considered part of the natural soundscape of Birżebbuġa. These are spaces that are cut off from the main activity of the locality and more natural sounds can be heard such as those of animals and in some instances, of the sea. With regards to the sound recording of Borġ in-Nadur, Elisa said, *'I barely heard Freeport noises, vehicles are heard a little, people and vehicles are seen as small as ants there, one can see everything from a distance, so it is a bit far away from the main activity, there is a sense of tranquillity there'*. Stephanie then pointed out that she likes these environments in Birżebbuġa because there is somewhere to go to disconnect in the locality. Peter mentioned the buzzing of cicadas in summer, while Jana found their constant noise irritating. Stephanie associated this sound with summer.

Although the recordings captured only natural sounds, noises from the Ħal Far racetrack and aeroplanes are occasionally audible from Wied Żembaq and Borġ in-Nadur. This illustrates the overlapping soundscapes in densely populated Birżebbuġa, where different areas' sounds

intersect. Elisa noted that in Wied Żembaq, you are unlikely to hear the everyday hustle and bustle: *'Then you are going to hear a sound ... "bumm", maybe an aeroplane or something from the Freeport, they will be noticed more because the sounds there are more isolated'*. She added that in the town centre, these sounds might go unnoticed due to the constant noise of vehicles and other activities. In quiet rural areas, intense sounds are more attention-grabbing where they might either annoy people or prompt them to reflect on the sounds. Sounds considered keynote in urban settings may become sound signals in rural environments. These two recordings can be considered as keynote sounds, however, certain sounds which can be heard in these spaces but were not in the recording, will certainly be classified as signal sounds.

In the recording from Tal-Mara Cliffs, the sounds heard can be regarded as keynote sounds. Here Emma noted that the area is quiet and free from the Freeport's sonic presence but expressed concern over the litter and occasional burning of waste, saying, *'With the waste left there, one cannot leave their dog unleashed for a few minutes'* Elisa mentioned hearing factory noises and smelling dead fish, highlighting that *'you get the visual and sensory experience in all totality there'*. While the recording captures tranquil sounds, a full sense of place requires considering the complete sensory experience and familiarity with the location. This indicates that true attachment to a place involves multiple senses and experiences.

Participants expressed appreciation for Birżebbuġa's tranquil and calming natural sites. One participant, who frequently organised clean-ups in these spaces, focused on cleanliness, which connected her to the area differently from others. While some participants preferred to experience natural spaces outside of Birżebbuġa, others valued these local spots as convenient escapes from daily life. Their attachment to these areas grew, especially during the COVID-19 pandemic. One participant noted that the proximity of contrasting sonic environments could quickly shift one's mood.

Sense of place in relation to the industrial areas

Today's world is overwhelmed with sounds, making it difficult for many to be heard clearly (Schafer, 1994, p. 71). In Birżebbuġa, the industrial soundscape, particularly noises from the Freeport and aeroplanes, is a significant concern among residents, as reflected in a focus group discussion. Participants noted that these industrial sounds are not part of the community and are the least desired to identify with. Schafer (1994) describes such sounds with large acoustic profiles as "imperialistic" (p. 77). While some residents have become accustomed to these sounds, others find them irritating and disruptive to sleep, especially those living near the Freeport. Outsiders might view the Freeport's sounds as a unique soundmark, but residents frequently express that they are tired of them, despite some finding the Freeport's lights comforting. The constant noise, particularly from generators, was deemed most bothersome. Jana remarked, *'That constant noise... kills me, and if it gets stuck in your ears at night, you will not sleep'*. The noise also impacts experiences along the promenade, and Elisa highlighted its negative effect on local wildlife, stating, *'I do not know how we have the Freeport near a 'Natura 2000' site... I see them as incompatible in a way, both because of the light and noise'*. This shows how the natural soundscape filled with different birdsongs is being destroyed by the industrial soundscape since everything is situated in a dense land.

The most notable feature of the industrial soundscape is the intensified sound output. The Industrial Revolution introduced persistent keynotes with minimal personality or progression (Schafer, 1994, p. 78). Industrial noises from the Freeport, such as the banging of containers and loud sirens, can sometimes even cause a sense of shock, highlighting that these sounds are signal sounds. The constant noise from the Freeport can be regarded as a keynote sound to those who have become accustomed to it and a signal sound to those who find it disturbing.

Residents of Birżebbuġa often endure post-industrial sounds. The quarter-mile racetrack, heard from areas like Tal-Papa and Bengħajsa, is a frequent nuisance, along with industrial sounds such as factory noises and shooting sounds from Ħal Far. These pervasive noises impact both residential and natural areas, potentially diminishing residents' deep sense of place. Luigi Russolo's (1913) concept of balancing modern industrial sounds with natural ones is evident here, though often leading to negative reactions, as natural tranquillity clashes with industrial noise. For instance, the Bengħajsa chapel square exemplifies this 'balance,' where the quiet of the seldom-visited space contrasts with the constant background noise of the Freeport.

Sense of place was a prominent theme in the focus group discussion. One participant highlighted this by recounting how some had suggested Birżebbuġa residents should move elsewhere if unhappy with the area's situation, to which she responded that her responsibility is to work towards positive change rather than leaving issues for future generations. This echoes Edward Relph's (1976) observation that the significance of place in human life runs deep, often leading individuals and communities to defend their places against external threats.

Conclusion

The sounds played during the focus group proved to be effective in testing the participants' sense of place as they instantly reacted to them in various ways. Despite the noise such as that coming from the Freeport, all participants displayed a strong connection to the locality when reacting to sounds such as those of the church bells and the sea, with some citing a sense of belonging and others stating they '*would not trade Birżebbuġa for anything*'. One resident even preferred Birżebbuġa to her former, quieter village because of her attachment to the sea. This suggests that the sense of place also depends on the quality-of-life experiences and the emotions these evoke. All participants possess an authentic sense of place, as they have lived in the area long enough to be considered insiders, both individually and as part of the community (Relph, 1976). This is exemplified by a participant who described certain parts of Birżebbuġa as 'drab' and 'dull,' demonstrating her deep attachment, realistic perspective and genuine connection to the locality.

The participants' familiarity with Birżebbuġa significantly benefited the research, revealing that certain soundscapes heightened their awareness more than others. Unfortunately, the most prominent soundscapes in Birżebbuġa are the noisy ones, which negatively impact residents' affection for the place, leading some to reminisce about the past. However, there were soundscapes that prompted participants to view Birżebbuġa positively, expressing a desire to preserve the good aspects of the locality. Although noisy environments can diminish the sense of place, this study helped participants engage more meaningfully with Birżebbuġa's diverse soundscapes, appreciating both the vibrant community and natural surroundings. This study

also helped the researcher himself to have a better sense of place and be more conscious of the positive aspects of Birżebbuġa. Despite the challenges, participants believe that noise will not drive them away from their hometown. Listening to others' perceptions provided comfort, revealing shared concerns, and highlighting the complexity of soundscapes. Birżebbuġa's vibrant community and natural soundscapes can foster greater awareness and appreciation of the locality. However, it is also crucial to identify and address the negative noise impacts to promote a healthier locality.

References

- Adams M., Cox T., Moore G., Croxford B., Refaee M. & Sharples S. (2006). Sustainable soundscapes: Noise policy and the urban experience. *Urban Studies*, 43(13). <https://doi/10.1080/00420980600972504>
- Aletta, F., & Xiao, J. (2018). What are the current priorities and challenges for (urban) soundscape research? *Challenges*, 9(1), 16. <https://doi.org/10.3390/challe9010016>
- Arena, J. (2022). 'Hasn't Birżebbuġa suffered enough?': residents protest mini airstrip plans. Times of Malta. <https://timesofmalta.com/article/birzebbuga-residents-protest-mini-airstrip-plans-znuber.939114>
- Axelsson, Ö. (2020). *Soundscape revisited*. *Journal of Urban Design*, 25(5), 551-555. <https://doi.org/10.1080/13574809.2020.1810006>
- Balzan, M. & D'Amato, C. (2017). *Birżebbuġa: A millennial history*. Għaqda Storja u Kultura Birżebbuġa, Malta.
- Barbour, R. (2007). *Doing focus groups*. Sage Publications.
- Baudin, C., Lefèvre, M., Babisch, W., Cadum, E., Champelovier, P., Dimakopoulou, K., Houthuijs, D., Lambert, J., Laumon, B., Pershagen, G., Stansfeld, S., Velonaki, V., Hansell, A. L., & Evrard, A. (2021). The role of aircraft noise annoyance and noise sensitivity in the association between aircraft noise levels and medication use: Results of a pooled-analysis from seven European countries. *BMC Public Health*, 21, 1-15. <https://doi.org/10.1186/s12889-021-10280-3>
- BioScience. (2023). *Soundscape ecology: The science of sound in the landscape*. Oxford Academic.
- Blackshaw, T. (2010). Setting the record straight: what is community? and what does it mean today?. In T. Blackshaw, T. (Ed.), *Key Concepts in Community Studies* (pp. 5-18). SAGE Publications. <https://doi.org/10.4135/9781446279076>
- Block, P. (2008). *Community: The structure of belonging*. Berrett-Koehler Publishers.
- British Sociological Association (2007) *Statement of Ethical Practice*. BSA Publications, UK. https://www.britsoc.co.uk/media/24310/bsa_statement_of_ethical_practice.pdf
- Bryman, A. (2016). *Social Research Methods* (5th ed.). Oxford University Press.
- Bukowski, K., & Buetow, S. (2010). Making the invisible visible: A photovoice exploration of homeless women's health and lives in central Auckland. *Social Science & Medicine*, 72(5), 739-746. <https://doi.org/10.1016/j.socscimed.2010.11.029>

- Camilleri, M. (2021). *Effects of noise pollution on residents living in Birżebbuġa and the introduction of effective mitigation measures*. [Unpublished Master's Thesis]. Malta College of Arts, Science and Technology, Malta.
- Cerwén, G. (2016). Urban soundscapes: A quasi-experiment in landscape architecture. *Landscape Research*, 41(5), 481-494. <https://doi.org/10.1080/01426397.2015.1117062>
- Chuengsatiansup, K. (1999). Sense, symbol, and soma: Illness experience in the soundscape of everyday life. *Culture, Medicine and Psychiatry*, 23, 273-301. <https://doi.org/10.1023/A:1005556026679>
- Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, 12(3), 297-298. <https://doi.org/10.1080/17439760.2016.1262613>
- Davies, W., Adams, M., Bruce, N., Cain, R., Carlyle, A., Cusack, P., Hall, D., Hume, K., Irwin, A., Jennings, P., Marselle, M., Plack, C. & Poxon, J. (2013). Perception of soundscapes: An interdisciplinary approach. *Applied Acoustics*, 74, 224–231. <https://doi.org/10.1016/j.apacoust.2012.05.010>
- Di Loreto, S., Serpilli, F., & Lori, V. (2022). Soundscape approach in the seaport of Ancona: A case study. *Acoustics*, 4(2), 516. <https://doi.org/10.3390/acoustics4020031>
- Easthope, H. (2016). *Losing control at home?* In R. Freestone & E. Liu (Eds.) *Place and placelessness revisited* (pp. 108-119). Routledge.
- Epstein, M. J., Bronzaft, A. (2020). *Sound and noise: A listener's guide to everyday life*. McGill-Queen's University Press.
- Foote, K. E., & Azaryahu, M. (2009). Sense of place. In R. Kitchin & N. Thrift (Eds.) *International encyclopaedia of human geography* (pp. 96-100). Elsevier. <https://doi.org/10.1016/B978-008044910-4.00998-6>
- Harris, A. (2015). Eliciting sound memories. *The Public Historian*, 37(4), 14–31. <https://doi.org/10.1525/TPH.2015.37.4.14>
- ISO (2014). *ISO 12913-1:2014 Acoustics — Soundscape — Part 1: Definition and conceptual framework*. Geneva: International Organization for Standardization.
- Khan, J., Ketzler, M., Kakosimos, K., Sørensen, M., & Jensen, S. (2018). Road traffic air and noise pollution exposure assessment – A review of tools and techniques. *Science of the Total Environment*, 634. <https://doi.org/10.1016/j.scitotenv.2018.03.374>
- Kołodziej, A., & Kołodziej-Durnaś, A. (2022). "Chapter 1: Maritime Sociology in the Making". In A. Kołodziej-Durnaś, F. Sowa & M.C., Grasmeyer (Eds.) *Maritime Spaces and Society*. Brill. https://doi.org/10.1163/9789004503410_002
- Kohut, T. (2015). Noise pollution and the eco-politics of sound: Toxicity, nature and culture in the contemporary soundscape. *Leonardo Music Journal*, 25, 5-8. <https://www.jstor.org/stable/43832520>
- Lawson, B. (2001). *Language of space*. Architectural Press, Oxford UK.
- Lewicka, M. (2011). Place attachment: How far have we come in the last 40 years? *Journal of Environmental Psychology*, 31(3), 207-230. <https://doi.org/10.1016/j.jenvp.2010.10.001>
- Licitra, G., Bolognese, M., Chiari, C., Carpita, S., & Fredianelli, L. (2022). Noise Source Predominance Map: a new representation for strategic noise maps. *Noise Mapping*, 9(1), 269-279. <https://doi.org/10.1515/noise-2022-0163>

- Liu, J., Kang, J., Luo, T., Behm, H., Coppack, T. (2013). Spatiotemporal variability of soundscapes in a multiple functional urban area. *Landscape and Urban Planning Volume 115*. <https://doi.org/10.1016/j.landurbplan.2013.03.008>
- Massey, D. (1994). *Space, place, and gender*. University of Minnesota Press.
- Micallef Filletti, J., Gauci, A., Deidun, A., Riccobene, G., & Viola, S. (2023). A preliminary snapshot investigation of the marine soundscape for Malta: A steppingstone towards achieving ‘good ecological status’. *Journal of Marine Science and Engineering*, 11(11), 2163. <https://doi.org/10.3390/jmse11112163>
- Moudon, A. V. (2009). Real noise from the urban environment: How ambient community noise affects health and what can be done about it. *American Journal of Preventive Medicine*, 37(2), 167–171. <https://doi.org/10.1016/j.amepre.2009.03.019>
- National Statistics Office Malta. (2023). *Census of population and housing 2021: Volume 1* (Final report). National Statistics Office Malta. <https://nso.gov.mt/wp-content/uploads/Census-of-Population-2021-volume1-final.pdf>
- Öhrström, E., Skånberg, A., Svensson, H., & Gidlöf-Gunnarsson, A. (2006). Effects of road traffic noise and the benefit of access to quietness. *Journal of sound and vibration*, 295(1-2), 40-59. <https://doi.org/10.1016/j.jsv.2005.11.034>
- Peake, B. (2008). Eating in the real Gozo: Sound, authenticity, and identity in Gozitan restaurants. *Omertaa, Journal for Applied Anthropology*, pp.235-242. <http://www.omertaa.org/archive/omertaa0031.pdf>
- Proshansky, H. M. (1978). The city and self-identity. *Environment and Behavior*, 10(2) <https://doi.org/10.1177/0013916578102002>
- Relph, E.C. (1976). *Place and placelessness*. Pion Limited.
- Schafer, R.M. (1994). *The soundscape. Our sonic environment and the tuning of the world*. Destiny Books.
- Schafer, R. M. (1977). *Five village soundscapes*. A.R.C. Publications.
- Skånberg, A., & Öhrström, E. (2002). Adverse health effects in relation to urban residential soundscapes. *Journal of Sound and Vibration*, 250(1), 151-155. <https://doi.org/10.1006/jsvi.2001.3894>
- Southworth, M. (1969). The sonic environment of cities. *Environment and Behavior*, 1(1), 49–70. <https://doi.org/10.1177/001391656900100104>
- Steele D, Steffens J, Guastavino C (2015) The role of activity in urban soundscape evaluation. *Proceedings of the InterNoise*, Maastricht, 2015 (pp.1507–1512).
- The Malta Independent (2021, September 27). €20m race-track to be built at Hal Far – PM Abela. *The Malta Independent*. <https://www.independent.com.mt/articles/2021-09-27/local-news/20m-race-track-to-be-built-at-Hal-Far-PM-Abela-6736237065>
- Trigg, D. (2012). *The memory of place: A phenomenology of the uncanny*. Ohio University Press.
- Truax, B. (2021). R. Murray Schafer (1933–2021) and the world soundscape project. *Organised Sound*, 26(3), 419-421. <https://doi.org/10.1017/S1355771821000509>
- Tuan, Y. (1990). *Topophilia: A study of environmental perceptions, attitudes, and values*. Columbia University Press.
- Vella, L. (2023, October 14). €12 million shore-to-ship Freeport project underway. *Malta Today*.

https://www.maltatoday.com.mt/news/national/125472/watch_12_million_shoretoship_freeport_project_underway

- Vokes, R. (2007) (Re)constructing the field through sound: Actor-networks, ethnographic representation and 'radio elicitation' in South-Western Uganda. *Creativity and Cultural Improvisation*, 285–303. <https://doi.org/10.4324/9781003135531-22>
- Wissmann, T. & Zimmermann, S. (2010). From hear to there: Sound and the cognitive construction of world in popular audioplays. *Erdkunde*, 64(4),371-383. <https://doi.org/10.3112/erdkunde.2010.04.06>
- Wothge, J., Belke, C., Möhler, U., Guski, R., & Schreckenberger, D. (2017). The combined effects of aircraft and road traffic noise and aircraft and railway noise on noise annoyance-an analysis in the context of the joint research initiative NORAH. *International Journal of Environmental Research and Public Health*, 14(8), 871. <https://doi.org/10.3390/ijerph14080871>